



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0645/S, REVISION 1**

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive materials.

1. Source Identification - AEA Technology QSA, Inc. Model XN159/XN160.
2. Source Description - Cylindrical double encapsulation made of stainless steel and tungsten inert gas or laser seal welded. Approximate exterior dimensions are 8.05 mm (0.32 in.) in diameter and 32.35 mm (1.27 in.) in length. Minimum wall thickness of the outer encapsulation is 0.65 mm (0.025 in.). Construction shall be in accordance with attached AEA Technology QSA, Inc. Drawing No. RBA10923, Rev. B.
3. Radioactive Contents - No more than 9.25 GBq (250 mCi) Americium-241 in the form of an oxide mixed with Beryllium powder and pressed into a solid pellet.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires August 31, 2008. On December 31, 2003, this certificate supersedes, in its entirety, all previously issued revisions of USA/0645/S.

1 "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

2 Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

CERTIFICATE USA/0645/S, REVISION 1

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the petition and information dated November 18, 2003 submitted by AEA Technology QSA, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified by:

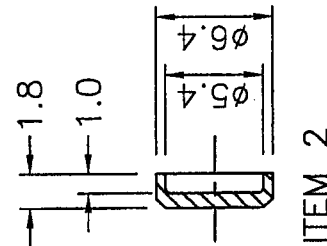
NOV 20 2003


Robert A. McGuire

(DATE)

Associate Administrator for
Hazardous Materials Safety

Revision 1 - Issued to allow optional ceramic fiber packing material and modify precision of inner capsule length.



APPROVALS		 40 NORTH AVE, BURLINGTON, MA 01803		TITLE XN159/XN160 CAPSULE ASSEMBLY		
R. J. Munn	17 Nov 03				SIZE A	
R. J. Munn	18 Nov 03				DWG. NO. RBA10923	
DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED TOLERANCES:					REV B	
X ± 0.5	INTERNAL $\frac{N7}{\sqrt{}}$				SCALE: NONE	SHEET 1 OF 1
X.X ± 0.1	EXTERNAL $\frac{N9}{\sqrt{}}$					
X.XX ± 0.05						
ANGULAR $\pm 5^\circ$						

ERF #	715
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